



B. Keith Taber
Vice President
Vogtle Units 1-2

7821 River RD
Waynesboro GA, 30830
706-848-0002 tel
706-848-3321 fax

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NL-17-0510

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Vogtle Electric Generating Plant – Unit 1
Licensee Event Report 2017-001-00
Manual Reactor Trip due to Main Steam Isolation Valve Closure

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv)(A), Southern Nuclear Operating Company (SNC) is submitting the enclosed Licensee Event Report, 2017-001-00 for Unit 1. This letter contains no NRC commitments. If you have any questions, please contact Dom Sutton at (706) 848-1428.

Respectfully submitted,

B. Keith Taber
Site Vice President - Vogtle

BKT/IBW

Enclosure: Unit 1 Licensee Event Report 2017-001-00

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. R. D. Gayheart, Fleet Operations General Manager
Mr. M. D. Meier, Vice President – Regulatory Affairs
Mr. B. K. Taber, Vice President – Vogtle 1 & 2
Mr. B. J. Adams, Vice President – Engineering
Mr. D. D. Sutton, Regulatory Affairs Manager – Vogtle 1 & 2
RType: CVC7000

U. S. Nuclear Regulatory Commission
Ms. C. Haney, Regional Administrator
Mr. M. D. Orenak, NRR Project Manager – Vogtle 1 & 2
Mr. M. F. Endress, Senior Resident Inspector – Vogtle 1 & 2

Vogtle Electric Generating Plant – Unit 1
Licensee Event Report 2017-001-00
Manual Reactor Trip due to Main Steam Isolation Valve Closure

Enclosure

Unit 1 Licensee Event Report 2017-001-00

NRC FORM 366 (06-2016)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB: NO. 3150-0104		EXPIRES: 10/31/2018		
 LICENSEE EVENT REPORT (LER) (See Page 2 for required number of digits/characters for each block)								
(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/								
1. FACILITY NAME Vogtle Electric Generating Plant				2. DOCKET NUMBER 05000424		3. PAGE 1 OF 2		
4. TITLE Manual Reactor Trip due to Main Steam Isolation Valve Closure								
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR
02	03	2017	2017	- 001	- 00	04	03	2017
						8. OTHER FACILITIES INVOLVED		
						FACILITY NAME		DOCKET NUMBER
								05000
						FACILITY NAME		DOCKET NUMBER
								05000
9. OPERATING MODE		11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check all that apply)						
1		<input type="checkbox"/> 20.2201(b)		<input type="checkbox"/> 20.2203(a)(3)(i)		<input type="checkbox"/> 50.73(a)(2)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(viii)(A)
		<input type="checkbox"/> 20.2201(d)		<input type="checkbox"/> 20.2203(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(ii)(B)		<input type="checkbox"/> 50.73(a)(2)(viii)(B)
		<input type="checkbox"/> 20.2203(a)(1)		<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.73(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(ix)(A)
		<input type="checkbox"/> 20.2203(a)(2)(i)		<input type="checkbox"/> 50.36(c)(1)(i)(A)		<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)		<input type="checkbox"/> 50.73(a)(2)(x)
100		<input type="checkbox"/> 20.2203(a)(2)(ii)		<input type="checkbox"/> 50.36(c)(1)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(A)		<input type="checkbox"/> 73.71(a)(4)
		<input type="checkbox"/> 20.2203(a)(2)(iii)		<input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 73.71(a)(5)
		<input type="checkbox"/> 20.2203(a)(2)(iv)		<input type="checkbox"/> 50.46(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> 73.77(a)(1)
		<input type="checkbox"/> 20.2203(a)(2)(v)		<input type="checkbox"/> 50.73(a)(2)(i)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(D)		<input type="checkbox"/> 73.77(a)(2)(i)
		<input type="checkbox"/> 20.2203(a)(2)(vi)		<input type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(vii)		<input type="checkbox"/> 73.77(a)(2)(ii)
				<input type="checkbox"/> 50.73(a)(2)(i)(C)		<input type="checkbox"/> OTHER		Specify in Abstract below or in NRC Form 366A
12. LICENSEE CONTACT FOR THIS LER								
LICENSEE CONTACT Vogtle Electric Generating Plant, Bennie White, Licensing Supervisor						TELEPHONE NUMBER (include Area Code) 706-848-3621		
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT								
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	REPORTABLE TO EPIX
B	SB	ISV	R340	N				
14. SUPPLEMENTAL REPORT EXPECTED					15. EXPECTED SUBMISSION DATE		MONTH	DAY
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO								
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)								
<p>On February 03, 2017 at 1545 EST, Vogtle Unit 1 was operating in Mode 1 at 100 percent power when the Loop 1 Outboard Main Steam Isolation Valve (MSIV)[ISV], 1HV3006B, began drifting closed due to hydraulic oil leak. Operating crew identified the issue and initiated a manual reactor trip due to the MSIV[ISV] drifting closed. All control rods fully inserted and all equipment actuated as designed.</p> <p>Unit 1 was stabilized in Mode 3 with the heat sink being maintained by Auxiliary Feedwater (AFW)[BA] and through the Atmospheric Relief Valves (ARVs)[RV]. The Loop 1 MSIV[ISV] closing was caused by an o-ring failure that led to a loss of hydraulic oil used to maintain the MSIV[ISV] in the open position.</p> <p>This event had no adverse effect on the health and safety of the public, and is of very low safety significance. This event is reportable per 10CFR50.73(a)(2)(iv)(A) due to manual and automatic actuation of a systems listed in 10CFR50.739(a)(2)(iv)(B). Unit 2 was unaffected.</p>								

NRC FORM 366A <small>(06-2016)</small>	U.S. NUCLEAR REGULATORY COMMISSION LICENSEE EVENT REPORT (LER) CONTINUATION SHEET	APPROVED BY OMB: NO. 3150-0104 <small>Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollections.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.</small>	EXPIRES: 10/31/2018						
<small>(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)</small>									
1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER							
Vogtle Electric Generating Plant	05000-424	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">YEAR</th> <th style="width: 33%;">SEQUENTIAL NUMBER</th> <th style="width: 33%;">REV NO.</th> </tr> <tr> <td style="text-align: center;">2017</td> <td style="text-align: center;">- 001</td> <td style="text-align: center;">- 00</td> </tr> </table>	YEAR	SEQUENTIAL NUMBER	REV NO.	2017	- 001	- 00	
YEAR	SEQUENTIAL NUMBER	REV NO.							
2017	- 001	- 00							
NARRATIVE A. REQUIREMENT FOR REPORT This report is required per 10CFR50.73(a)(2)(iv)(A) due to unplanned manual actuation of the Reactor Protection System (RPS), with auto actuation of the Auxiliary Feedwater System and Feedwater Isolation.									
B. UNIT STATUS AT TIME OF EVENT Mode 1, 100 percent power									
C. DESCRIPTION OF EVENT On February 03, 2017 at approximately 1545 EST, the Unit 1 control room received a trouble alarm for Loop 1 MSIV (1HV-3006B). Immediately after the initial trouble alarm, a second alarm was received in the Main Control Room indicating 1HV-3006B was no longer in the full open position. The Operator at the Controls (OATC) attempted to re-open the valve manually by holding the control room handswitch in the open position. This was not effective as valve position continued to drift closed and steam flow continued to degrade until the Shift Supervisor (SS) directed a manual reactor trip. This manual trip resulted in an Emergency Safety Feature (ESF) automatic actuation for Auxiliary Feedwater (AFW)[BA], Feedwater Isolation (FWI)[ISV], and Turbine Trip(TT), as expected. The operating crew stabilized plant in Mode 3 using the emergency operating procedures and decay heat was removed via the Atmospheric Relief Valves (ARVs)[RV].									
D. CAUSE OF EVENT The cause of the event was a failure of an o-ring on the MSIV lower manifold pressure boundary. The o-ring failure resulted in a loss of hydraulic pressure on the MSIV which caused the valve to drift closed. O-ring failed from extrusion because of radial misalignment.									
E. SAFETY ASSESSMENT Plant Operators took manual actions to shut down the Unit 1 reactor due to degrading plant conditions. ESF auto actuations for Auxiliary Feedwater, Feedwater Isolation and Turbine Trip occurred, as expected. Operating crew stabilized plant entering Emergency Operating Procedures (EOP's) and transitioned to Unit Operating Procedures to maintain stable plant conditions. Because all systems responded as required and there were no actual adverse effects on the health and safety of the public. The safety significance of the event is considered very low.									
F. CORRECTIVE ACTION MSIV 1HV3006B was repaired by installing a carbon steel bushing in the manifold O-ring counter bore with a reduced diameter o-ring. Manual honing of the cylinder boss was performed to smooth the surface. The MSIV actuator was reassembled and functionally tested satisfactorily.									
G. ADDITIONAL INFORMATION 1)Previous Similar Events: This MSIV previously closed at power in 2014. 2)Commitment Information: No commitments are made in this correspondence.									